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Date: September 10, 2001

To: Laura A. Fay, OEPA, Columbus, OH
→ Kim Baker, ODNR, Columbus, OH
Michael G. Montone, USACOE, Buffalo, NY

From: Charles E. Herdendorf, EcoSphere Associates, Sheffield, OH

RE: Barnes Nursery Hydrology Restoration Project

We have been continually monitoring the vegetation development and the project site since last September. After nearly a year, I would like to give you a brief progress report. The enclosed prints of digital images will give you an idea of the improvements that have occurred (if you would like, I can email you sharper JPEG images). Please confirm your email address — mine is herdendorf@aol.com.

Images No. 1 & No. 2 show the project site as I first saw it in September 2000 (note only sparse vegetation on the crest and shores of the linear island). By November 2000 (Images No. 3 and 4) some colonization is shown near the crest, but little vegetation occurs at the shore, particularly on the north (right) side of the island, and the mud flats to the north and south are barren. Image No. 5 (April 2001) shows the wetland restoration work at the far western end of the project and lack of vegetation cover on the island.

Images No. 6–No. 12 show the remarkable development of vegetation that has occurred this growing season on the crest and shoreline of the island (No. 6–No. 11), on the mud flats to the south of the island and channel (Nos. 6, 7, & 9), and on the restoration area (No. 12). Particularly gratifying is the spread of wetland plants across the interior mud flats (No. 9), as predicted. The lack of wetland development on the mud flats north of the island (Nos. 10 & 11) demonstrates the value of the island in fostering wetland development. The diversity of wetland plants now growing along the shores of the island is also impressive (No. 8 — channel shore and No. 9 bay shore). Another encouraging observation is the lack of significant stands of *Phragmites* on the island and even where the channel was filled at the restoration area (No. 12), although some control measures may eventually be needed adjacent to the ODNR property at the northern tip of the peninsula.

Given that it has only been about 14 months since construction on the project was ended, I believe the images demonstrate a remarkable improvement in the project appearance and ecological function. If you are in the northcentral Ohio area in the near future, I encourage you to visit the project site to observe first hand these improvements.

cc: Sharon L. Barnes
Steven D. Bell
Gary Finni

VEGETATION SURVEY OF THE BARNES NURSERY PROJECT
EAST SANDUSKY BAY, ERIE COUNTY, OHIO -- SEPTEMBER 7, 2001

	SCIENTIFIC NAME	COMMON NAME	RELATIVE ABUNDANCE BS	IC	CS	MF	WETLAND CLASS
1.	*Acer negundo*	box-elder	-	O	-	-	FAC+
2.	*Alisma plantago-aquatica*	broad-leaf water-plantain	C	-	-	-	OBL
3.	*Amaranthus retroflexus*	red-root amaranth, pigweed	-	O	O	-	FACU
4.	*Amaranthus tuberculatus*	rough-fruit amaranth	-	-	O	C	FACW
5.	*Ammannia coccinea*	pink ammannia	O	-	-	O	OBL
6.	*Aster* sp.	aster		O	-	-	—
7.	*Bidens cernua*	nodding beggar-ticks	C	-	-	O	OBL
8.	*Chenopodiumam brosioides*	American wormseed	-	O	-	-	FACU
9.	*Chenopodium glaucum*	oak-leaved goosefoot	-	A	-	-	FACW-
10.	*Cirsium arvense*	creeping thistle	-	-	O	-	FACU
11.	*Conyza canadensis*	horseweed	-	-	O	-	FAC-
12.	*Cycloloma atriplicifolium*	winged pigweed	-	C	O	-	FACU
13.	*Cyperus erythrorhizos*	umbrella-sedge	C	-	C	A	FACW+
14.	*Cyperus esculentus*	chufa	-	-	O	-	FACW
15.	*Cyperus odoratus*	rusty flatsedge	C	-	O	C	FACW
16.	*Cyperuvs rivularus*	shining flatsedge	O	-	-	-	FACW+
17.	*Echinochloa walteri*	Walter's millet	-	-	O	-	FACW+
18.	*Eleocharis acicularis*	least spikerush	O	-	-	-	OBL
19.	*Epilobium glandulosum*	willow-herb	-	C	O	-	FAC-
20.	*Erechtites hieraciifolia*	American burn, pilewort	-	-	O	-	FACU
21.	*Eupatorium perfoliatum*	common boneset	C	O	C	-	FACW+
22.	*Impatiens capensis*	jewelweed	C	-	O	C	FACW
23.	*Juncus dudleyi*	Dudley's rush	-	O	-	-	FAC-
24.	*Juncus effusus*	soft rush	-	-	O	C	FACW+
25.	*Juncus tenuis*	slender or path rush	-	-	-	O	FAC-
26.	*Ludwigia palustris*	water-purslane	C	-	-	C	OBL
27.	*Lythrum salicaria*	purple loosestrife	O	O	-	O	FACW+
28.	*Mentha arvensis*	field mint	-	-	-	O	FACW
29.	*Mimulus ringens*	Allegheny monkey-flower	-	-	-	C	OBL
30.	*Nelumbo lutea*	American or water lotus	U	-	-	-	OBL
31.	*Oenothera biennis*	common evening-primrose	O	C	-	-	FACU-
32.	*Panicum capillare*	witchgrass	-	-	-	O	FAC-
33.	*Penthorum sedoides*	ditch-stonecrop	C	-	O	C	OBL
34.	*Phragmites australis*	common reed	-	O	-	-	FACW
35.	*Phytolacca americana*	common pokeweed	-	O	-	-	FACU+
36.	*Plantago rugelii*	black-seed or Rugel's plantain	-	O	-	-	FACU
37.	*Polygonum lapathifolium*	nodding smartweed	C	A	A	C	FACW+
38.	*Polygonum punctatum*	dotted or water smartweed	C	-	-	-	OBL
39.	*Populus deltoides*	eastern cotton-wood	-	A	C	-	FAC
40.	*Potentilla norvegica*	Norwegian or rough cinquefoil	-	-	O	-	FACU
41.	*Sagittaria latifolia*	broad-leaf arrow-head	A	-	-	C	OBL
42.	*Salix amygdaloides*	peach-leaf willow	-	-	-	O	FACW
43.	*Salix exigua* [= *S. interior*]	sandbar willow	-	O	O	-	OBL
44.	*Scirpus validus*	soft-stem or great bulrush	C	-	-	C	OBL
45.	*Solanum dulcamara*	bittersweet nightshade	-	O	-	A	FACU-
46.	*Solidago canadensis*	Canada golden-rod	-	C	-	-	FACU
47.	*Sparganium eurycarpum*	giant bur-reed	-	-	-	C	OBL
48.	*Trifolium pratense*	red clover	-	O	-	-	FACU-
49.	*Typha angustifolia*	narrow-leaf cattail	C	-	-	C	OBL
50.	*Verbena hastata*	blue vervain	U	C	O	-	FACW+

RELATIVE ABUNDANCE
A — Abundant
C — Common
O — Occasional
U — Uncommon

WETLAND INDICATOR CODES
FAC — Faculative Plants
FACU — Faculative Upland Plants
FACW — Faculative Wetland Plants
OBL — Obligate Wetland Plants
\+ greater wetland probability
\- lesser wetland probability

SAMPLING LOCATIONS
BS — Bay shoreline of island
IC — Crest of Island
CS — Channel shoreline of island
MF — Mud flats south of channel

Field collection and identification by Dr. Charles E. Herdendorf, Emeritus Professor of Limnology, The Ohio State University (9/7/01).
Species identification verified by Dr. Ronald L. Stuckey, Emeritus Professor of Botany, The Ohio State University (9/8/01).